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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,454	10/27/2005	Joop Dalstra	72998-012400	8653

7590 02/19/2009
Charles Berman
Greenberg Traurig
2450 Colorado Avenue
Suite 400E
Santa Monica, CA 90404

EXAMINER

AZIZ, KEITH T

ART UNIT	PAPER NUMBER
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4122

MAIL DATE	DELIVERY MODE
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02/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,454	Applicant(s) DALSTRA, JOOP	
	Examiner KEITH T. AZIZ	Art Unit 4122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-16 is/are rejected.
- 7) ☒ Claim(s) 17-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11/18/2005; 3/06/2006; 1/09/2007.

DETAILED ACTION

Election/Restrictions

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-12, drawn to an apparatus for analyzing and controlling the production of glass products.

Group 2, claim(s) 13-22, drawn to a method for analyzing and controlling the production of glass products.

1. The inventions listed as Groups 1 and 2 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group 1 and Group 2 lack unity of invention because even though the inventions of these groups require the technical feature of measuring infrared radiation originating from hot glass products and the measuring means sensitive to radiation from near infra red region, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of Chan (Chan, J., "Automated Inspection and Container Monitoring at the Hot End", *Inspection, Measurement, and Control*, International Glass Review, 1997) and Dalstra et al.(Dalstra, J. et al., "The Missing Link Between the Hot

End Process and Product Quality”, *International Glass Review*, Issue 3, 2007, pp. 132-137).

2. During a telephone conversation with Christopher Darrow on 2/5/2009 a provisional election was made without traverse to prosecute the invention of Group 2, claims 13-22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

3. Claims 17-22 are objected to under 37 CFR 1.75(c) as being in improper form because a multi dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Drawings

4. The drawings are objected to because Figures 1-2 should be designated by a legend as such - Prior Art - since only prior art is illustrated. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the

appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 13, and 16 rejected under 35 U.S.C. 102(b) as anticipated by Dalstra et al. ("The missing link between the hot end process and product quality", International Glass Review, pp. 132-137, Issue 3, 2000), hereinafter referred to as Dalstra..

Dalstra teaches a system and method that is used in analyzing and monitoring the production process of glass articles. Dalstra teaches that an infrared camera is provided for determining the heat distribution in hot glass products, determines the amount of infra red radiation originating from the hot glass products, and determining the heat distribution from the infrared radiation measured. See the last paragraph of page 135 and the first three paragraphs of page 136 of Dalstra. Based on the above teaching, the infra red measuring camera of Dalstra is inherently sensitive to near infra red region as required by claim 13. Dalstra also teaches that a process for analyzing glass production processes should be performed before the products enter a cooling over, and that monitoring procedures should be performed on the 'hot end'. See the first paragraph of 'Infrared Hot End Process Monitoring' in Dalstra on page 135.

Dalstra further teaches a method for subdividing the acquired infrared image of the glass products into several measurement regions, and determining the average intensity values of the different regions, as required by claim 16. See Figure 4 on Page 135 of Dalstra, where the average intensity of four different regions is depicted in a graphical manner. Dalstra further teaches an alarm signal and error signal system in

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the event of any significant deviation in intensity. See the second paragraph on page 137 of Dalstra.

9. Claims 13 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Chan ("Automated Inspection and container monitoring at the hot end", Inspection, Monitoring & Control, Article, 3 pages, International Glass Review, Spring/Summer 1997), hereinafter referred to as Chan A, or Chan ("Automated inspection and monitoring of glassware at the hot end", Glass Technology, Vol. 35, No. 5, October 1994, pp. 200-203), hereinafter referred to as Chan B.

Both Chan A and Chan B teach a system and method that is used in analyzing and monitoring the production of hot glass articles. Chan A and Chan B teach an infrared CCD unit that is fitted to give well defined heat images of hot glassware through measuring infrared radiation. See the first paragraph of page 110 in Chan A or the last paragraph on page 201 of Chan B. Chan A and Chan B further teach that the image containing the product can be divided into a plurality of inspection regions, as required by claim 16. See the fifth paragraph of page 110 in Chan A or the first Figure on page 202 of Chan B. Chan A and Chan B further teach determining the intensity values for a number of consecutively shaped glass articles, recording any deviations, comparing the products, and generating a warning or alarm signal to indicate any deviations outside of a range. See the last paragraph on page 110 and the first paragraph and Figures 3-4 on page 111 of Chan A or the status indicator section and subsequent paragraph of page 202 in Chan B.

Chan A further teaches that the heat image that generates the warning or alarm represents differences in temperature and volume, and that any deviation in these variables outside of a range will cause an alarm or warning signal, as required by claims 19-20. See the third paragraph and the last paragraph of page 110 in Chan A or the status indicator section and subsequent paragraph on page 202 in Chan B. Chan A further teaches that local discontinuities in the heat distribution are recorded and displayed. See Figures 3-4 of page 111 in Chan A or the second Figure on page 202 of Chan B.

It should be noted that the infra red sensitive CCD unit of both Chan A and Chan B are equipped with filters to capture well defined heat images from the glass container being produced. Therefore, the cameras of Chan A and Chan B would have been inherently sensitive to radiation from the near infra red region originating from the interior of the container

Alternatively, it would have been obvious to one of ordinary skill in the art at the time of invention was made to measure near infra red radiation by the CCD unit in such a way that the radiation was exclusively coming from the interior all - in a manner analogous to the positioning of a microscope lens above a petri dish. The motivation to do so would have been to focus on deformities that could occur on the interior wall. Furthermore, it would have been obvious to utilize a camera that was only sensitive to radiation in the near infrared region. The motivation to do so would have been to filter out excessive background radiation at other wavelengths.

Claim Rejections - 35 USC § 103

10. Claims 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Chan A, Chan B, or Dalstra as applied to claims 13 and 16 above, and further in view of Abbasi et al (U.S. Patent Application 2003/0123518), hereinafter referred to as Abbasi.

Chan A, Chan B, and Dalstra teach the method of claims 13 and 16 as taught above. Chan and Dalstra do not explicitly teach the use of at least one near infra red filter, and also do not teach that the measurement means is sensitive to wavelengths in the range of 900-2800 nm.

Abbasi teaches a method of thermal imaging where a near infra red filter is used and the measurement means is sensitive to wavelengths in the range of 900-2800 nm. See Figure 2 as well as claim 17 of Abbasi. It would have been obvious to one of ordinary skill in the art at the time of invention to include the filter and sensitivity as taught by Abbasi in the method as taught by either Chan or Dalstra. The rationale to do so would have been the motivation to ensure that the wavelengths absorbed are not distorted by other sources of infrared radiation. See paragraph [0019] of Abbasi.

11. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Chan A, Chan B, or Dalstra as applied to claims 13 and 16 above, and further in view of Johnston ("A Guide to radiation thermometers", Glass technology International, pgs. 161-164, Feb 1998), hereinafter referred to as Johnston.

Chan A, Chan B, and Dalstra teach the method of claim 13 as taught above. Chan and Dalstra do not explicitly teach that the measurement means is sensitive to wavelengths in the range of 900-2800 nm.

Johnston teaches a radiation thermometer that operates below 2500 nm. See the sixth paragraph of page 162 in Johnston. It would have been obvious to one of ordinary skill in the art at the time of invention to include the radiation thermometer taught by Johnston in the method as taught by either Chan or Dalstra. The motivation to do so would have been the rationale to minimize the effect of variable emissivity. See the sixth paragraph of page 162 in Johnston.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to further show the state of the art with respect to hot glass process control.

U.S. Patent 5,935,285 to Lucas, drawn to a method for inspecting manufactured articles

U.S. Patent Application 2003/0024269 to Shepard et al., drawn to a method for glass processing and temperature sensing.

Rantanen et al. ("Use of the Near-Infrared Reflectance Method for Measurement of Moisture content during granulation", Pharmaceutical Development and Technology, Issue 5, 2000, pp. 209-217), drawn to a method for detecting impurities using infrared measurements.

U.S. Patent 3,968,368 to Sager, drawn to an inspection apparatus for hot glass containers.

U.S. Patent 6,198,102 to Shepherd, drawn to an inspection method using infrared energy.

U.S. Patent 6,894,775 to Cech, drawn to a method for inspecting the structural integrity of clear objects.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH T. AZIZ whose telephone number is (571)270-7658. The examiner can normally be reached on Monday through Friday 8:00am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KTA/
Patent Examiner

/Milton I. Cano/
Supervisory Patent Examiner, Art Unit 4122